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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re United States Patent Application of:			
Applicant(s):	**Wang, Lai-Xi**	**Docket No.:**	**4115-189**
Application No.:	**10/531,124**	**Examiner:**	**Not Yet Assigned**
Submission Date:	**11 April 2005**	**Art Unit:**	1648
Int'l Filing Date:	**14 October 2003**	**Customer No.:**	**23448**
Priority Date:	**11 October 2002(U.S. Provisional Patent Application No. 60/417,764)**		
Title:	**CARBOHYDRATE-BASED SYNTHETIC VACCINES FOR HIV**		

23448

FIRST CLASS MAIL CERTIFICATE

I hereby certify that I am mailing the attached documents to the Commissioner for Patents on the date specified, in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450, and First Class Mailed under the provisions of 37 CFR 1.8.

Joanna Joslyn

October 4, 2005
Date

INFORMATION DISCLOSURE STATEMENT

Mail Stop Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. §1.56, the attention of the Patent and Trademark Office is hereby directed to the reference(s) listed on the attached PTO/SB/08A. One copy of each reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

☒ 1. This Information Disclosure Statement is being filed within three months of the U.S. filing date OR before the mailing date of a first Office Action on the merits. No certification or fee is required.

☐ 2. This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection or Notice of Allowance.

☐ a. I hereby certify that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. §1.97(e)(1).

☐ b. I hereby certify that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. §1.97(e)(2).

☐ c. Attached is our check no. [redacted] in the amount of $ [redacted] in payment of the fee under 37 C.F.R. §1.17(p). Please credit or debit Deposit Account No. [redacted] as needed to ensure consideration of the disclosed information. Two duplicate copies of this paper are attached.

☐ 3. This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. Applicant(s) hereby petition(s) that the Information Disclosure Statement be considered. Attached is our check no. [redacted] in the amount of $180.00 in payment of the petition fee under 37 C.F.R. §1.17(p). Please credit or debit Deposit Account No. [redacted] as needed to ensure consideration of the disclosed information. Two duplicate copies of this paper are attached.

☐ a. I hereby certify that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. §1.97(e)(1).

☐ b. I hereby certify that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. §1.97(e)(2).

Respectfully submitted,



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Attorney for Applicants

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Sheet 1 of 7

COMPLETE IF KNOWN	
Application Number	10/531,124
Filing Date	April 11, 2005
First Named Inventor	WANG, Lai-Xi
Art Unit	1648
Examiner Name	Unassigned
Attorney Docket Number	4115-189

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author (in CAPITOL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published	T[2]
	AA	Mascola, J. R.; Snyder, S. W.; Weislow, O. S.; Belay, S. M.; Belshe, R. B.; Schwartz, D. H.; Clements, M. L.; Dolin, R.; Graham, B. S.; Gorse, G. J.; Keefer, M. C.; McElrath, M. J.; Walker, M. C.; Wagner, K. F.; McNeil, J. G.; MeCutchan, F. E.; Burke, D. S. Immunization with envelope subunit vaccine products elicits neutralizing antibodies against laboratory-adapted but not primary isolates of human immunodeficiency virus type 1. *J Infect Dies* 1996, *173,* 340-348.	
	AB	Alcott, T. C.; Betake, F. R.; Burke, D. S.; Redfield, R. R.; Bird, D. L. Lack of induction of antibodies specific for conserved, discontinuous epitopes of HIV-1 envelope glycoprotein by candidate AIDS vaccines. *J Immunol* 1995, *155,* 4100-4110.	
	AC	Schwartz, D. H.; Gorse, G.; Clements, M. L.; Belshe, R.; Izu, A.; Duliege, A. M.; Berman, P.; Twaddell, T.; Stablein, D.; Sposto, R.; et al. Induction of HIV-1-neutralizing and syncytium-inhibiting antibodies in uninfected recipients of HIV-1IIIB rgpl20 subunit vaccine. *Lancet* 1993, *342,* 69-73.	
	AD	Burton, D. R. A vaccine for HIV type 1: the antibody perspective. *Proc Nat! Acad Sci U SA* 1997, *94,* 10018-10023.	
	AE	Wyatt, R.; Sodroski, J. The HIV-1 envelope glycoproteins: fusogens, antigens, and immunogens. *Science* 1998,280, 1884-1888.	
	AF	Sattentan, Q. J.; Moulard, M.; Brivet, B.; Botto, F.; Guillemot, J. C.; Mondor, I.; Poignard, P.; Ugolini, S. Antibody neutralization of HIV-1 and the potential for vaccine design. *Immunol Lett.* 1999, 66, 143-149.	
	AG	Nabel, G. J.; Challenges and opportunities for development of an AIDS vaccine. *Nature* 2001, *410,* 1002-1007.	
	AH	Burton, D. R.; Pyati, J.; Koduri, R.; Sharp, S. J.; Thornton, O. B.; Parren, P. W.; Sawyer, L. S.; Hendry, R. M.; Dunlop, N.; Nara, P. L.; et al. Efficient neutralization of primary isolates of HIV-1 by a recombinant human monoclonal antibody. *Science* 1994, *266,*1024-1027.	
	AI	Trkola, A.; Purtscher, M.; Muster, T.; Ballaun, C.; Buchacher, A.; Sullivan, N.; Srinivasan, K.; Sodroski, J.; Moore, J. P.; Katinger, H.; Human monoclonal antibody 2G12 defines a distinctive neutralization epitope on the gpl20 glycoprotein of human immunodeficiency virus type 1. *J Virol* 1996, *70,* 1100-1108.	
	AJ	Conley, A. J.; Kessler, 3. A., 2nd; Boots, L. J.; Tung, J. S.; Arnold, B. A.; Keller, P. M.; Shaw, A. R.; Emini, E. A. Neutralization of divergent human immunodeficiency virus type I variants and primary isolates by IAM-41-2F5, an anti-gp41 human monoclonal antibody. *Proc. Natl. Acad Sci. U & A.* 1994, *91, 3348-3352.*	
	AK	Zwick, M. B.; Labrijn, A. F.; Wang, M.; Speniehauer, C.; Saphire, E. O.; Binley, J. M.; Moore, J. P.; Stiegler, G.; Katinger, H.; Burton, D. R.; Parren, P. W. Broadly neutralizing antibodies targeted to the membrane-proximal external region of human immunodeficiency virus type 1 glycoprotein gp41. *J Virol* 2001, 75, 10892-10905.	

Examiner signature		Date Considered	

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[1] All the foreign patents and publications that are not written in English language are accompanied by their respective English abstracts, which constitute concise explanation of relevance of the non-English patents and publications that satisfy the requirements of 37 C.F.R. §1.98(a)(3)(i), according to MPEP 609 III A(3).

INFORMATION DISCLOSURE STATEMENT BY APPLICANT Sheet 2 of 7	COMPLETE IF KNOWN	
	Application Number	10/531,124
	Filing Date	April 11, 2005
	First Named Inventor	WANG, Lai-Xi
	Art Unit	1648
	Examiner Name	Unassigned
	Attorney Docket Number	4115-189

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITOL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published	T[2]
	AL	Mascola, J. R.; Stiegler, G.; VanCott, T. C.; Katinger, H.; Carpenter, C. B.; Hanson, C. E.; Beary, H.; Hayes, D.; Frankel, S. S.; Birx, D. L.; Lewis, M. G.; Protection of macaques against vaginal transmission of a pathogenic HIV- 1/SIV chimeric virus by passive infusion of neutralizing antibodies. *Nat Med* 2000, 6,207-210.	
	AM	Baba, T. W.; Liska, V.; Hofmann-Lehmann, R.; Vlasak, J.; Xu, W.; Ayehunie, S.; Cavacini, L. A.; Posner, M. R.; Katinger, H.; Stiegler, G.; Bernacky, B. J.; Rizvi, T.A.; Schmidt, R.; Hill, L. R.; Keeling, M. E.; Lu, Y.; Wright, J. E.; Chou, T. C.; Ruprecht, R. M. Human neutralizing monoclonal antibodies of the IgGl subtype protect against mucosal simian-human immunodeficiency virus infection. *Nat Med* 2000, 6, 200-206.	
	AN	DeVico, A.; Silver, A.; Thronton, A. M.; Sarngadhran, M. G.; Pal, R. Covalently crosslinked complexes of human immunodeficiency virus type I (HIV-1) gp120 and CD4 receptor elicit a neutralizing immune response that includes antibodies selective for primary virus isolates. *Virology* 1996, 218,258-263.	
	AO	LaCasse, R. A.; Follis, K. E.; Trahey, M.; Scarborough, J. D.; Litttman, D. R.; Nunberg, J. H. Fusion-competent vaccines: broad neutralization of primary isolates of HIV. *Science*1999, *283,* 357-362.	
	AP	Leonard, C. K.; Spellman, M. W.; Riddle, L.; Harris, R. J.; Thomas, J. N.; Gregory, T. J. Assignment of intrachain disulfide bonds and characterization of potential glycosylation sites of the type 1 recombinant human immunodeficiency virus envelope glycoprotein (gp120) expressed in Chinese hamster ovary cells. *J Biol Chem* 1990, *265,* 10373-10382:	
	AQ	Mizuochi, T.; Matthews, T. J.; Kato, M.; Hamako, J.; Titani, K.; Solomon, J.; Feizi, T. Diversity of oligosaccharide structures on the envelope glycoprotein gp120 of human immunodeficiency virus 1 from the lymphoblastoid cell line H9. Presence of complex-type oligosaccharides with bisecting N- acetylglucosamine residues. J *Biol Chem* 1990, *265,* 8519-8524.	
	AR	Geyer, H.; Holschbach, C.; Hunsmann, G.; Schneider, J. Carbohydrates of human immunodeficiency virus. Structures of oligosaccharides linked to the envelope glycoprotein 120. *J Biol Chem 1988,263,* 11760-11767.	
	AS	Zhu, X.; Borchers, C.; Bienstock, R. J.; Tomer, K. B. Mass spectrometric characterization of the glycosylation pattern of HIV- gp120 expressed in CHO cells. *Biochemistry* 2000, *39,*11194-11204.	
	AT	Kwong, P. D.; Wyatt, R.; Robinson, J.; Sweet, R. W.; Sodroski, J.; Hendrickson, W. A. Structure of an HIV gp120 envelope glycoprotein in complex with the CD4 receptor and a neutralizing human antibody. *Nature* 1998,393, 648-659.	
	AU	Wyatt, R.; Kwong, P. D.; Desjardins, E.; Sweet, R. W.; Robinson, J.; Hendrickson, W. A.; Sodroski, J. G. The antigenic structure of the HIV gp120 envelope glycoprotein. *Nature* 1998,*393,* 705-711.	
	AV	Gerencer, M.; Barrett, P. N.; Kistner, O.; Mitterer, A.; Domer, F. Natural IgM antibodies in baby rabbit serum bind high-mannose glycans on HIV type I glycoprotein 120/160 and activate classic complement pathway. *AIDS Res Hum Retroviruses* 1998, *14,* 599-605.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT Sheet 3 of 7	COMPLETE IF KNOWN	
	Application Number	10/531,124
	Filing Date	April 11, 2005
	First Named Inventor	WANG, Lai-Xi
	Art Unit	1648
	Examiner Name	Unassigned
	Attorney Docket Number	4115-189

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITOL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published	T[2]
	AW	Arendrup, M.; Sonnerborg, A.; Svennerholm, B.; Akerblom, L.; Nielsen, C.; Clausen, H.; Olofsson, S.; Nielsen, J. O.; Hansen, J. E. Neutralizing antibody response during human immunodeficiency virus type 1 infection: type and group specificity and viral escape. J *Gen Virol* 1993, *74,* 855-863.	
	AX	Hansen, J. E.; Nielsen, C.; Clausen, H.; Mathiesen, L. R.; Nielsen, J. O. Effect of anti-carbohydrate antibodies on HIV infection in a monocytic cell line *(U937). Antiviral Res* 1991, *16,* 233-242.	
	AY	Tomiyama, T.; Lake, D.; Masuho, Y.; Hersh, E. M. Recognition of human immunodeficiency virus glycoproteins by natural anti-carbohydrate antibodies in human serum; *Biochem Biophys Res Commun 1991,177,* 279-285.	
	AZ	Cunto-Amesty, G.; Dam, T. K.; Luo, P.; Monzavi-Karbassi, B.; Brewer, C. F.; Van Cott, T. C.; Kieber-Emmons, T. Directing The immune response to carbohydrate antigens. J *Biol Chem* 2001, *276,* 30490-30498.	
	BA	Ezekowitz, R. A.; Kuhlman, M.; Groopman, J. E.; Bym, R. A. A human serum mannose-binding protein inhibits in vitro infection by tile human immunodeficiency virus. *J Exp Med* 1989,*169,* 185-196.	
	BB	Hansen, J. E.; Nielsen, C. M.; Nielsen, C.; Heegaard, P.; Mathiesen, L. R.; Nielsen, J. O. Correlation between carbohydrate structures on the envelope glycoprotein gp120 of HIV-1 and HIV-2 and syncytium inhibition with lectins. *Aids* 1989, *3,* 635-641.	
	BC	Balzarini, J.; Schols, D.; Neyts, J.; Van Damme, E.; Peumans, W.; De Clercq, E. Alpha-(1-3)- and alpha-(1 - 6)-D-mannose-specific plant lectins are markedly inhibitory to human immunodeficiency virus and cytomegalovirus infections in vitro. *Antimicrob Agents Chemother* 1991, 35, 410416.	
	BD	Gattegno, L.; Ramdani, A.; Jouault, T.; Saffar, L.; Gluckman, J. C. Lectin-carbohydrate interactions and infectivity of human immunodeficiency virus type 1 (HIV-1) *AIDS Res Hum Retroviruses* 1992, 8, 27-37.	
	BE	Hammar, L.; Hirsch, I.; Machado, A. A.; De Mareuil J.; Baillon, J. G.; Bolmont, C.; Chermann, J. C. Lectin-mediated effects on IIIV type 1 infection in vitro. *AIDS Res Hum Retroviruses* 1995, *11,* 87-95.	
	BF	Saifuddin, M.; Hart, M. L.; Gewurz, H.; Zhang, Y.; Spear, G. T. Interaction of mannose-binding lectin with primary isolates of human immunodeficiency virus type 1. J *Gen Virol* 2000, *81,* 949-955.	
	BG	Boyd, M. R.; Gustafson, K. R.; MeMahon, J. B.; Shoemaker, W H.; OKeefe, B. R.; Mori, T.; Gulakowski, R. J.; Wu, L.; Rivera, M. I.; Laurencot, C. M.; Currens, M. J.; Cardellina, J. H., 2nd; Buckheit, R. W., Jr.; Nara, P. L.; Pannell, L. K.; Sowder, R. C., 2nd; Henderson, L. E. Discovery of cyanovirin-N, a novel human immunodeficiency virus- inactivating protein that binds viral surface envelope glycoprotein gp120: potential applications to microbicide development. *Antimicrob Agents Chemother* 1997, *41,* 1521-1530.	
	BH	Dey, B.; Lemer, D. L.; Lusso, P.; Boyd, M. R.; Elder, J. H.; Berger, E. A. Multiple antiviral activities of cyanovirin-N: blocking of human immunodeficiency virus type 1 gp120 interaction with CD4 and coreceptor and inhibition of diverse enveloped viruses. J *Virol* 2000, 74, 4562-4569.	

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	BI	Bewley, C. A. Solution structure of a cyanovirin-N:Man alpha 1-2Man alpha complex:structural basis for high-affinity carbohydrate-mediated binding to gp120. *Structure (Camb)* 2001, 9, 931-940.	
	BJ	Bewley, C. A.; Otero-Quintero, S. The potent anti-HIV protein cyanovirin-N contains two novel carbohydrate binding sites that selectively bind to Man(8) D1D3 and Man(9) with nanomolar affinity implications for binding to the HIV envelope protein gp120. J *Am Chem Soc* 2001, *123,* 3892-3902.	
	BK	Bolmstedt, A. J.; O'Keefe, B. R.; Shenoy, S. R.; McMahon, J. B.; Boyd, M. R. Cyanovirin-N defines a new class of antiviral agent targeting N-linked, high-mannose glycans in an oligosaccharide-specific manner. *Mol Pharmacol* 2001, *59,* 949-954.	
	BL	Geijtenbeek, T. B.; Kwon, D. S.; Torensma, R.; van Vliet, S. J.; van Duijnhoven, G. C.; Middel, J.; Cornelissen, I. L.; Nottet, H. S.; KewalRamani, V. N., Littman, D. R.; Figdor, C.G.; van Kooyk, Y. DC-SIGN, a dendritic cell-specific HIV-l-binding protein that enhances trans-infection of T cells. *Cell* 2000, *100,* 587-597.	
	BM	Geijtenbeek, T. B.; Torensma, R.; van Vliet, S. J.; van Duijnhoven, G. C.; Adema, G. J.; van Kooyk:, Y.; Figdor, C. G. Identification of DC-SIGN, a novel dendritic cell-specific ICAM-3 receptor that supports primary immune responses. *Cell* 2000, *100,* 575-585.	
	BN	Pohlmann, S.; Soilleux, E. J.; Baribaud, F.; Leslie, G. J.; Morris, L. S.; Trowsdale, J.; Lee, B.; Coleman, N.; Doms, R. W. DC-SIGNR, a DC-SIGN homologue expressed in endothelial cells, binds to human and simian immunodeficiency viruses and activates infection in trans. *Proc Natl Acad Sci USA* 2001, *98,* 2670-2675.	
	BO	Feinberg, H.; Mitchell, D. A.; Drickamer, K.; Weis, W. I. Structural basis for selective recognition of oligosaccharides by DC- SIGN and DC-SIGNR. *Science* 2001, *294,* 2163-2166.	
	BP	Wang, L. X.; Ni, J.; Singh, S. Carbohydrate-centered maleimide cluster as a new type of templates for multivalent peptide assembling: Synthesis of multivalent HIV-l gp41 peptides. *Bioorg. Med.Chem.* 2002, *in press.*	
	BQ	Kudryashov, V., Kim, H. M.; Ragupathi, G.; Danishefsky, S. J..; Livingston, P.O.; Lloyd, K. O. Immunogenicity of synthetic conjugates of Lewis(y) oligosaccharide with proteins in mice: towards the design of anticancer vaccines. *Cancer Immunol Immunother* 1998, 45, 281-286.	
	BR	Slovin, S. F.; Ragupathi, G.; Adluri, S.; Ungers, G.; Terry, K.; Kim, S.; Spassova, M.; Bornmann, W. G.; Fazzari, M.; Dantis, L.; Olkiewicz, K.; Lloyd, K. O.; Livingston, P. O.; Danishefsky, S. J.; Scher, H. I. Carbohydrate vaccines in cancer: immunogenicity of a fully synthetic globo H hexasaccharide conjugate in man. *Proc Nail Acad &Sci U S A* 1999, *96,* 5710-5715.	
	BS	Wang, Z. 0.; Williams, L. J.; Zhang, X. F.; Zatorski, A.; Kudryashov, V.; Ragupathi, G.; Spassova, M.; Borumarm, W.; Slovin, S. F.; Scher, H. I.; Livingston, P.O.; Lloyd, K. O.; Danishefsky, S. J. Polyclonal antibodies from patients immunized with a globo H-keyhole limpet hemocyanin vaccine: isolation, quantification, and characterization of immune responses by using totally synthetic immobilized tumor antigens. *Proc Nail Acad Sci USA* 2000, *97,* 2719-2724.	
.	BT	Feinberg, H.; Mitchell, D. A.; Drickamer, K.; Weis, W. I. Structural basis for selective recognition of oligosaccharides by DC- SIGN and DC-SIGNR. *Science* 2001, *294,* 2163-2166.	

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	BU	Wang, L. X.; Ni, J.; Singh, S. Carbohydrate-centered maleimide cluster as a new type of templates for multivalent peptide assembling: Synthesis of multivalent HIV-l gp41 peptides. *Bioorg. Med.Chem.* 2002, *in press.*	
	BV	Kudryashov, V., Kim, H. M.; Ragupathi, G.; Danishefsky, S. J..; Livingston, P.O.; Lloyd, K. O. Immunogenicity of synthetic conjugates of Lewis(y) oligosaccharide with proteins in mice: towards the design of anticancer vaccines. *Cancer Immunol Immunother* 1998, 45, 281-286.	
	BW	Slovin, S. F.; Ragupathi, G.; Adluri, S.; Ungers, G.; Terry, K.; Kim, S.; Spassova, M.; Bornmann, W. G.; Fazzari, M.; Dantis, L.; Olkiewicz, K.; Lloyd, K. O.; Livingston, P. O.; Danishefsky, S. J.; Scher, H. I. Carbohydrate vaccines in cancer: immunogenicity of a fully synthetic globo H hexasaccharide conjugate in man. *Proc Nail Acad &Sci U S A* 1999, *96,* 5710-5715.	
	BX	Wang, Z. 0.; Williams, L. J.; Zhang, X. F.; Zatorski, A.; Kudryashov, V.; Ragupathi, G.; Spassova, M.; Borumarm, W.; Slovin, S. F.; Scher, H. I.; Livingston, P.O.; Lloyd, K. O.; Danishefsky, S. J. Polyclonal antibodies from patients immunized with a globo H-keyhole limpet hemocyanin vaccine: isolation, quantification, and characterization of immune responses by using totally synthetic immobilized tumor antigens. *Proc Nail Acad Sci USA* 2000, *97,* 2719-2724.	
	BY	Sabbatini, P. J.; Kudryashov, V.; Ragupathi, G.; Danishefsky, S. J.; Livingston, P.O.; Bornmann, W.; Spassova, M.; Zatorski, A.; Spriggs, D.; Aghajanian, C.; Soignet, S.; Peyton, M.; O'Flaherty, C.; Curtin, J.; Lloyd, K. O. Immunization of ovarian cancer patients with a synthetic Lewis (y)- protein conjugate vaccine: a phase 1 trial. *Int J Cancer* 2000, 87, 79-85.	
	BZ	Danishefsky, S. J.; Allen, J. W From the laboratory to the clinic: A retrospective on fully synthetic carbohydrate-based anticancer vaccines *Angew. Chem. Int. Ed Engi.* 2000, 39, 836-863.	
	CA	Kudryashov, V.; Glunz, P. W.; Williams, L. J.; Hintermann, S.; Danishefsky, S. J.; Lloyd, K. O. Toward optimized carbohydrate-based anticancer vaccines: epitope clustering, carrier structure, and adjuvant all influence antibody responses Lewis (y) conjugates in mice. *Proc Natl Acad & Sci USA* 2001, *98,* 3264-3269.	
	CB	Gilewski, T.; Ragupathi, G.; Bhuta, S.; Williams, L. J.; Musselli, C.; Zhang, X. F.; Bencsath, K. P.; Panageas, K. S.; Chin, J.; Hudis, C. A.; Norton, L.; Houghton, A. N.; Livingston, P.O.; Danishefsky, S. J. Immunization of metastatic breast cancer patients with a fully synthetic globo H conjugate: a phase I trial. *Proc Natl Acad & Sci USA* 2001, *98,* 3270-3275.	
	CC	Allen, J. R.; Harris, C. R.; Danishefsky, S. J. Pursuit of optimal carbohydrate-based anticancer vaccines: preparation of a multiantigenic unimolecular glycopeptide containing the Tn, MBrl, and Lewis (y) antigens. *J Am Chem Soc.* 2001, *123,* 1890-1897.	
	CD	Ragupathi, G.; Cappello, S.; Yi, S. S.; Canter, D.; Spassova, M.; Bornmann, W. G.; Danishefsky, S. J.; Livingston, P.O. Comparison of antibody titers after immunization with monovalent or tetravalent KLH conjugate vaccines. *Vaccine* 2002, 20, 1030-1038.	
	CE	Morley, S. L.; Pollard, A. J. Vaccine prevention of meningococcal disease, coining soon? *Vaccine* 2001, *20,* 666-687.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT Sheet 6 of 7	COMPLETE IF KNOWN	
	Application Number	10/531,124
	Filing Date	April 11, 2005
	First Named Inventor	WANG, Lai-Xi
	Art Unit	1648
	Examiner Name	Unassigned
	Attorney Docket Number	4115-189

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITOL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published	T[2]
	CF	Lis, H.; Sharon, N. Soybean agglutinin--a plant glycoprotein. Structure of the carbohydrate unit. *J Biol Chem* 1978, 253, 3468-3476.	
	CG	Dorland, L.; van Halbeek, H.; Vleigenthart, J. F.; Lis, H.; Sharon, N. Primary structure of the carbohydrate chain of soybean agglutinin. A reinvestigation by high resolution ^{1}H NMR spectroscopy. *J Biol Chem* 1981, *256,* 7708-7711.	
	CH	Wang, L. X.; Fang, J. Q.; Lee, Y. C. Chemoenzymatic synthesis of a high-mannose-type N-glycopeptide analog with C-glycosidic linkage. *Tetrahedron Lett.* 1996, 37, 1975-1978.	
	CI	Wang, L. X.; Tang, M.; Suzuki, T.; Kitajima, K.; Inoue, *Y.;* Inoue, S.; Fang, J. Q.; Lee, Y. C. Combined chemical and enzymatic synthesis of a C-glycopeptide and its inhibitory activity toward glycoamidases. *J Am. Chem. Soc.* 1997, *119,* 11137-11146.	
	CJ	Ni, J.; Singh, S.; Wang, L. X. Improved preparation of perallylated cyclodextrins: facile synthesis of cyclodextrin-based polycationic and polyanionic compounds. *Carbohydr Res* 2002, *337,* 217-220.	
	CK	Sprengard, Ux.; Kretzschmar, G.; Bartnik, E.; Huls, C.; Kunz, H. Synthesis of an RGD-sialyl-Lewis glycoconjugates: A new highly active ligand for P-selectin. *Angew Chem.Intt. Ed Engl* 1995, 34 ,990-993.	
	CL	Cohen-Anisfeid, S. T.; Lansbury Jr., P. T. A practical, convergent method for glycopeptide synthesis. J *Am. Chem. Soc.* 1993, *115,* 10531-10537.	
	CM	Helling, F.; Shang, A.; Calves, M.; Zhang, S.; Ren, S.; Yu, R. K.; Oettgen, H. F.; Livingston, P.O. GD3 vaccines for melanoma: superior immunogenicity of keyhole limpet hemocyanin conjugate vaccines. *Cancer Res* 1994, *54,* 197-203.	
	CN	Helling, F.; Zhang, S.; Shang, A.; Adluri, S.; Calves, M.; Koganty, R.; Longenecker, B. M.; Yao, T. J.; Oettgen, H. F.; Livingston, P.O. GM2-KLH conjugate vaccine: increased immunogenicity in melanoma patients after administration with immunological adjuvant QS-21. *Cancer Res* 1995, *55,* 2783-2788.	
	CO	Kensil, C. R.; Patel, U.; Lennick, M.; Marciani, D. Separation and characterization of saponins with adjuvant activity from Quillaja saponaria Molina cortex. J *Immunol* 1991, *146,* 431-437.	
	CP	Pal, R.; DeVico, A.; Rittenhouse, S.; Sarngadharan, M. G. Conformational perturbation of the envelope glycoprotein gp120 of human immunodeficiency virus type 1 by soluble CD4 and the lectin succinyl Con A. *Virology* 1993, *194,* 833-837.	
	CQ	DeVico, A. L.; Rahman, R.; Welch, J.; Crowley, R.; Lusso, P.; Sarngadharan, M. G.; Pal, R. Monoclonal antibodies raised against covalently crosslinked complexes of human immunodeficiency virus type 1 gp120 and CD4 receptor identify a novel complex-dependent epitope on gp 120. *Virology 1995, 211,* 583-588.	
	CR	Fouts, T. R.; Tuskan, R. G.; Chada, S.; Hone, D. M.; Lewis, G. K. Construction and immunogenicity of Salmonella typhimurium vaccine vectors that express HIV-l gpl20. *Vaccine* 1995, *13,* 1697-1705.	
	CS	Dear, E. S.; Li, X. L.; Moodily, T.; Ho, D. D. High concentrations of recombinant soluble CD4 are required to neutralize primary human immunodeficiency virus type 1 isolates. *Proc. Natl. Acad. Sci. U S A.* 1990, *87,* 6574-6578.	
	CT	Connor, R. I.; Sheridan, K. B.; Ceradini, D.; Choe, S.; Landau, N. R. Change in coreceptor use coreceptor use correlates with disease progression in HIV - 1 infected individuals. J. *Exp. Med* 1997, 185,621-628.	

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NON-PATENT LITERATURE DOCUMENTS			
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	CU	Connor, R. I.; Mohri, H.; Cao, Y.; Ho, D. D. Increased viral burden and cytopathicity correlate temporally with CD4+ T-lymphocyte decline and clinical progression in human immunodeficiency virus type 1-infected individuals. J *Virol* 1993, 67, 1772-1777.	
	CV	Vujcic, L. K.; Quinnan, G. V., Jr. Preparation and characterization of human HIV type 1 neutralizing reference sera. *AIDS Res. Hum. Retroviruses,* 1995, *11,* 783-787.	
	CW	a) Turnbull, W. B.; Stoddatt, J. F., J. *Biotechnol.* 2002,90,231-255. b) Lindhorst, T. K., *Topics in Curr. Chem.* 2002,218, 200-235. (c) Roy, R., *Curr. Opin. Struct Biol.* 1996, 6, 692-702.	
	CX	Kitov, P.I.; Sadowska, J. M.; Mulvey, G.; Armstrong, G. D.; Ling, H.; Pannu, N. S.; Read, R. J.; Bundle, D. R., *Nature* 2000, *403,* 669-672.	
	CY	Wang, L. *x.;* Ni, J.; Singh, S., *Bioorg. Med Chem.* 2002, *in press.*	
	CZ	Lis, H.; Sharon, N., *J Biol. Chem.* 1978, *253,* 3468-3476.	
	DA	Duncan, R. J.; Weston, P. D.; Wrigglesworth, R., *Anal. Biochem.* 1983, 132, 68-73.	
	DB	Mizuochi, T., Matthews, T. J., Kato, M., Hamako, J., Titani, K., Solomon, J., and Feizi, T. (1990) *J Biol Chem* **265**, 8519-8524.	
	DC	Geyer, H., Holschbach, C., Hunsmann, G., and Schneider, J. (1988) *J Biol Chem* **263**, 11760-11767.	
	DD	Zhu, X., Borchers, C., Bienstock, R. J., and Tomer, K. B. (2000) *Biochemistry* **39**, 11194-11204.	
	DE	Fujita, K., Tanaka, N., Sano, M., Kato, I., Asada, Y., and Takegawa, K. (2000) *Biochem. Biophys. Res. Commun.* **267**, 134-138.	
	DF	Huang, C. C., Mayer, H. E., and Montgomery, R. (1970) *Carbohydr. Res.* **13**, 127-137.	
	DG	Sanders, R. W., Venturi, M., Schiffner, L., Kalyanaraman, R., Katinger, H., Lloyd, K. O., Kwong, P. D., and Moore, J. P. (2002) *J Virol* **76**, 7293-7305.	
	DH	Scanlan, C. N., Pantophlet, R., Wormald, M. R., Ollmann Saphire, E., Stanfield, R., Wilson, I. A., Katinger, H., Dwek, R. A., Rudd, P. M., and Burton, D. R. (2002) *J Virol* **76**, 7306-7321.	
	DI	Wang, L. X., Ni, J., and Singh, S. (2003) *Bioorg. Med. Chem.* **11**, 129-136.	
	DJ	Ni, J., Singh, S., and Wang, L. X. (2003) *Bioconjug Chem* **14**, 232-238.	
	DK	Duncan, R. J., Weston, P. D., and Wrigglesworth, R. (1983) *Anal Biochem* **132**, 68-73.	

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